IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	LYONS ET AL.	Examiner:	COCKS, JOSIAH C.
Serial No.:	09/781,149	Group Art Unit:	3749
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Confirm. No.:	7449	Customer No.:	23552
Title:	MONOLITHIC PANEL FOR A GAS BURNER		

SECOND SUPPLEMENTAL DECLARATION OF DAVID C. LYONS

I, David C. Lyons, further declare and say as follows.

1. This is in supplement to my declarations executed on March 4, 2002 and May 20, 2004 and filed with the Patent Office in conjunction with the prosecution of the above-referenced application, such declarations being hereby incorporated by reference in their entireties.

2. I have reviewed Sinsley, U.S. Patent No. 6,361,725 (hereinafter "Sinsley"). I understand that Sinsley is being cited as prior art against the present application.

3. Generally, Sinsley discloses a modified vacuum molding technique. I describe Sinsley's technique as a "modified" vacuum molding technique because Sinsley discloses using pressure to force a slurry through a screen rather than the typical vacuum molding technique, which involves drawing the slurry through the screen.

4. Nevertheless, as one skilled in the art, it is my opinion that one skilled in the art would understand that Sinsley discloses a vacuum molding technique that is distinct from the compression molding technique disclosed and claimed in the present application.

5. Sinsley generally describes the vacuum molding technique disclosed therein as follows:

> The process uses a textured screen with a mold body into which a slurry of synthetic mineral wool fiber is injected under pressure and then molded under increased air pressure by driving the liquid out of the mold through a plurality of apertures. Once molded, continued air pressure partially dries the formed article to low moisture content in a shortened cycle time.

Sinsley, col. 1, ll. 56-62 (underlining added). Sinsley therefore discloses using "a slurry of synthetic mineral wool fiber." Id. The slurry is described as comprising a ratio of water to solid material of approximately 2075 to 36 (or almost 98% water by weight). Sinsley, col. 3, ll. 3-6.

Such a large water to solid material ratio is used in vacuum molding, where water including the material is forced through a porous screen to coalesce the material on the screen while allowing the water to pass through. Attempting to compression mold a slurry including a water to solid material ratio of 2075 to 36 would be unsuccessful at least because the high water content would not allow the compressive forces to act on the molding composition to form an article.

6. Sinsley describes the molding process itself as follows:

> An injection control valve 31 opens imparting the batch injection tank content slurry under a positive pressure range of 10-20 psi into the mold assembly 10 via a supply line 31A as best seen in FIG. 3 of the drawings, filling the mold cavity within. The injection control valve 31 is then closed and a drying control valve 32 is opened to a second source of compressed air 33. Air pressure supply to the mold assembly 10 in the range of 35 to 40 psi forces the liquid L out through the drain openings 25 within the mold base 23.
>
> The water is driven out of the mold assembly 10 leaving the ceramic fibers collected on the molding surface 17 of the synthetic mesh 16 within. The water is captured within the retainment enclosure 20 collected and returned to a recycled water storage tank 34.

Sinsley, col. 3, ll. 26-40. As the underlined portions illustrate, the process disclosed by Sinsley '725 includes forcing the slurry through the synthetic mesh 16, leaving fibers to collect on the surface 17 while allowing water from the slurry to escape. An alternative process illustrated at Figures 6-8 of Sinsley also involves forcing of a slurry through a screen mold. Sinsley, col. 4, ll. 35-41.

7. The phrases "pressure injection" and "pressure collation" are used by Sinsley to refer to the pressure that is used to force the slurry through the screen or "mold" to coalesce the fibers on the mold. The pressure described by Sinsley is not used to compress the molding composition itself, as is the case in a compression molding technique.

8. Based on the above-noted disclosure by Sinsley, it is therefore my opinion that one skilled in the art would understand that Sinsley discloses vacuum molding techniques, albeit somewhat modified in that, instead of drawing or pulling the slurry through the mesh using vacuum pressure, the slurry is forced or pushed through the mesh. However, this does not change the fact that a slurry is being forced through a mesh to coalesce the solid material and to remove water.

9. As provided in more detail in my previous declarations, in compression molding, rather than using a slurry that is passed through a screen, a molding composition is compressed under at least some pressure.

10. I declare that all statements made are of my own knowledge and are true, and that all statements made on information and belief are believed to be true and I have been warned that willful false statements and the like are punishable by fine or imprisonment, or both (18 U.S.C. §1001), and may jeopardize the validity of the application resulting therefrom.

Date: 9/13/04

David C. Lyons